MUSIC THERAPY IN DEMENTIA CARE

MUSIC THERAPY IN DEMENTIA CARE

OTÝLIE TAKEO

Copyright © 2026 by Otýlie Takeo
All rights reserved. No part of this book may be reproduced in any manner whatsoever without written permission except in the case of brief quotations embodied in critical articles and reviews.
First Printing, 2026

Introduction to Music Therapy in Neurogerontology

The global demographic landscape is undergoing a profound and unprecedented transition, with the aging population expanding at an accelerating rate. Epidemiological projections robustly indicate that by the year 2050, one out of every six individuals globally will be aged 65 years or older.[1] Running parallel to this demographic shift is the escalating prevalence of dementia, a neurodegenerative clinical syndrome characterized by a progressive and irreversible decline in cognitive, behavioral, social, and emotional faculties.[2] Dementia is not an inevitable consequence of normal aging, but rather a complex neurological disorder influenced by a matrix of genetic predispositions and cardiovascular risk factors, including hypertension, dyslipidemia, cigarette smoking, and stroke.[1] Currently, over 5 million adults in the United States alone are living with dementia, including Alzheimer's disease (AD), with approximately 80% residing in their communities and 20% in long-term care facilities.[3] The economic and societal burden of this syndrome is staggering. Annual care costs exceed $200 billion in the United States, and financial models project that caring for individuals with Alzheimer's will cost Medicare, Medicaid, private insurance, and individuals an estimated $20 trillion over the next four decades.[4]

In the face of this growing public health crisis, current pharmacological interventions—such as cholinesterase inhibitors and N-Methyl-D-Aspartate (NMDA) receptor antagonists—aim to alleviate cognitive symptoms and manage the behavioral and psychological symptoms of dementia

(BPSD).[5] However, the efficacy of these medications is frequently limited, particularly concerning non-cognitive outcomes, and they carry significant risks of adverse side effects, including lethargy, gastrointestinal distress, and increased fall risks.[1] Consequently, there has been a critical paradigm shift within neurogerontology toward non-pharmacological interventions, with music therapy emerging as a preeminent, evidence-based modality. Music therapy operates as a holistic adjuvant to traditional medical treatments, leveraging the profound and preserved connections between auditory processing and the limbic system to enhance cognitive function, emotional well-being, and overall quality of life.[5]

The systemic integration of music therapy in dementia care represents a transformative approach to treating neurodegenerative decline. By addressing the multifaceted needs of individuals suffering from varied etiologies of dementia—including Alzheimer's disease, vascular dementia, frontotemporal dementia, and Dementia with Lewy bodies—music therapy offers a multimodal means of expression that circumvents damaged neural pathways.[3] The ensuing analysis meticulously evaluates the neurological mechanisms of music therapy, its clinical efficacy across diverse dementia populations, established clinical practice frameworks, practical implementation strategies for caregivers, virtual program availability, and the rigorous regulatory landscape for finding and verifying board-certified music therapists.

Neurological and Psychological Mechanisms of Action

The therapeutic potency of music in dementia care is predicated on its unique capacity to stimulate widespread neural networks, including regions of the brain that remain relatively preserved even in the advanced stages of neurodegeneration. Understanding these mechanisms is crucial for appreciating why music succeeds where traditional language and logic fail.

Neuroplasticity and Cognitive Reserve

Long-term musical training and sustained engagement with music act as powerful stimuli for neuroplastic alterations in both the developing and adult brain.[6] Neuroplasticity—the brain's intrinsic ability to reorganize itself by forming new neural connections and pathways—is fundamentally enhanced by the complex, multisensory demands of music processing.[6] Empirical evidence underscores this neuroprotective effect, revealing that lifelong musicians are 64% less likely to develop mild cognitive impairment (MCI) or dementia compared to non-musicians.[6] This phenomenon suggests that active musical engagement builds a robust cognitive reserve, allowing the brain to tolerate greater levels of neurodegenerative pathology before manifesting the clinical symptoms of cognitive decline.

In individuals already diagnosed with dementia, music therapy facilitates the activation of memory-related cortical and subcortical areas. The rhythmic and melodic components of music influence fundamental physiological states, altering brain wave patterns, respiration rates, and heart rate variabil-

ity.[5] By consistently stimulating these networks, music therapy promotes brain connectivity, which is particularly beneficial for activating the hippocampus—a region critically involved in the consolidation of new memories and emotional responses.[5] This targeted stimulation can stabilize or marginally improve specific cognitive domains, such as verbal fluency and spatial orientation, by maximizing the functionality of intact neural circuits.[1] Furthermore, specialized medical models, such as Melodic Intonation Therapy (MIT), leverage this plasticity for rehabilitation. When brain damage or deterioration has caused severe language loss, MIT embeds short propositional phrases into repeated, simple melodic patterns accompanied by finger tapping.[8] By paralleling the natural inflection patterns of pitch and rhythm found in spoken sentences, MIT encourages articulation and fluency through the singing of familiar songs, effectively bypassing damaged language centers.[8]

The Limbic System and Emotional Regulation

The psychological mechanisms of music therapy are deeply intertwined with the brain's emotional processing centers. Music uniquely activates the limbic system, subcortical circuits, and the autonomic nervous system.[6] Because the auditory cortex shares a robust, direct anatomical connection with the limbic system, music can bypass higher-order cortical processing areas that are often ravaged by Alzheimer's disease and other forms of dementia.[10] This specialized neural architecture allows sound to be processed instantaneously by brain regions associated with long-term memory and emotion.[10]

Consequently, the long-term memory for music remains remarkably intact until the terminal stages of dementia progression, directly preceding the disease's final attack on the brainstem.[11] Even when patients lose the capacity for expressive language, facial recognition, or spatial orientation, familiar melodies can elicit powerful emotional associations and provoke feelings of well-being, comfort, and safety.[6] Furthermore, music influences the neurochemical pathways responsible for mood regulation, altering the release of cortisol, dopamine, and endorphins, thereby reducing stress, anxiety, and the frequency of agitated behaviors.[13] This biochemical modulation is central to understanding why music can rapidly de-escalate acute behavioral crises in clinical and home care settings.

Clinical Efficacy and Behavioral Outcomes

The clinical efficacy of music therapy in dementia care has been extensively documented through randomized clinical trials, systematic reviews, and network meta-analyses.[1] While it is unequivocally understood that music therapy cannot cure dementia or reverse irreversible neuronal death, it serves as a highly effective, non-invasive intervention for holistic symptom management.[3]

Cognitive Improvements and Assessment Metrics

Quantitative assessments of cognitive function following music therapy are frequently measured utilizing established neuro-psychiatric tools, including the Mini-Mental State Examination (MMSE), the Montreal Cognitive Assessment

(MoCA), the Alzheimer's Disease Assessment Scale-cognitive subscale (ADAS-Cog), the Revised Memory and Behavior Problems Checklist (RMBPC), and Immediate and Deferred Prose Memory tests (MPI and MPD).[16] Other secondary outcomes, such as overall life satisfaction, are quantified using the Quality of Life in Alzheimer's Disease (QOL-AD) scale.[17]

Recent literature reviews and meta-analyses of 14 studies conducted between 2010 and 2025 revealed a significant improvement in global cognitive function following music therapy interventions, yielding a Standardized Mean Difference (SMD) of 0.46.[18] The duration and frequency of the intervention are critical variables in determining these cognitive outcomes. Meta-regression analyses demonstrate that significant improvements in cognitive function correlate strongly with interventions spanning a minimum of 12 weeks, encompassing at least 16 discrete sessions, and totaling no less than 8 hours of cumulative therapeutic exposure.[19] Interestingly, passive listening therapies administered over a period exceeding three months yielded even higher cognitive improvements, with an SMD of 0.62.[18] Conversely, other research highlights that shorter intervention periods—those lasting less than 20 weeks—are highly effective in triggering immediate cognitive arousal and enhancing verbal fluency, indicating that music therapy offers both acute and chronic cognitive benefits.[1]

Mitigation of Behavioral and Psychological Symptoms of Dementia

Beyond cognitive stabilization, music therapy is profoundly impactful in managing BPSD. Systematic reviews

confirm significant reductions in clinical anxiety, depression, and apathy following music-based interventions.[1] The therapy serves as a short-term, highly effective strategy for mitigating acute agitation and sundowning—a clinical phenomenon characterized by increased confusion, pacing, and restlessness during the late afternoon and evening hours.[21] By inducing parasympathetic nervous system activation, music therapy provides a non-pharmacological sedative effect, which not only improves the emotional state of the patient but also significantly reduces the physiological distress and burnout commonly experienced by primary caregivers.[16] The 2025 Cochrane review further corroborated these findings, demonstrating moderate-certainty evidence for improvements in depressive symptoms and behavioral problems across institutionalized dementia populations.[25]

Active vs. Receptive Music Therapy Modalities

Music therapy interventions in dementia care are broadly categorized into active and receptive (passive) modalities. The selection of the appropriate modality is highly individualized, contingent upon the patient's specific stage of dementia, physical capabilities, and targeted therapeutic goals.[13]

Active Music Intervention

Active music therapy involves the patient's direct, physical participation in the creation of music. This encompasses singing, rhythmic drumming, instrument exploration, dancing, and improvisational songwriting.[20] Active music intervention demands higher levels of cognitive engagement and

motor coordination, making it highly effective for stimulating verbal fluency, orientation, and memory retention.[20]

Clinical comparisons illustrate the potent, multifaceted effects of active engagement. In controlled studies, a significantly higher percentage of patients receiving active music intervention demonstrated measurable improvements in cognitive deficits (85.7%), behavioral symptoms (92.9%), and functional states (46.4%) compared to those participating in receptive listening (11.8%, 42.9%, and 14.3%, respectively) or standard care.[24] Furthermore, mean MMSE change scores are routinely observed to be significantly higher in active cohorts.[24] Active engagement also provides vital physical rehabilitation; for example, participating in a drumming circle exercises both gross and fine motor skills, strengthening hand-eye coordination and grip strength. This physical maintenance directly translates to the preservation of activities of daily living, such as the ability to utilize eating utensils or fasten clothing independently.[10]

Receptive Music Intervention

Receptive or passive music therapy involves purposeful, structured listening to pre-recorded or live therapeutic music.[20] While it does not require the physical exertion or executive function demands of active intervention, receptive therapy remains a highly effective cognitive stimulant and mood regulator. It is particularly valuable for patients in the moderate to advanced stages of dementia, who may struggle with interactive therapies due to severe cognitive decline or physical frailty.[20]

Receptive therapy is intimately linked with eliciting autobiographical memories. Curating and playing familiar music from a patient's formative years—typically their teenage years and early twenties—taps into deep-seated emotional reservoirs, promoting deep relaxation and emotional well-being.[11] Some meta-analyses posit that receptive methods may actually be more effective than active methods in specifically reducing acute anxiety, agitation, and resistance to physical care, as it demands less processing power from an already overwhelmed neurological system.[24]

Modality Type	Clinical Description	Primary Therapeutic Goals
Active Music Intervention (AMI)	Direct participation involving singing, instrument playing, clapping, or vocal improvisation.	Enhance verbal f ency, reality orientat motor skills, and soc interaction.
Receptive Music Intervention (RMI)	Structured listening to curated pre-recorded playlists or live therapeutic performances.	Maintain cogniti baseline, reduce acut itation, ease pain, an improve emotional s

Clinical Practice Guidelines and the Board-Certified Music Therapist Framework

The application of music in a clinical neurogerontology context is not a casual endeavor; it is an evidence-based, highly structured discipline. The American Music Therapy Association (AMTA) defines music therapy as the clinical use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program.[26]

The Clinical Assessment and Implementation Process

Board-Certified Music Therapists (MT-BCs) operate within a rigorous clinical framework designed to maximize holistic care while minimizing risks. The process begins with a comprehensive assessment of the client's emotional well-being, physical health, cognitive skills, and social functioning.[3] This assessment is often conducted in collaboration with a multidisciplinary healthcare team, integrating feedback from neurologists, primary caregivers, and nursing staff.[3] Following this assessment, therapists develop highly individualized treatment plans encompassing specific short-term and long-term goals—such as managing environmental stress, alleviating chronic pain, expressing latent feelings, or improving transitional mobility.[3]

Continuous evaluation is a hallmark of this clinical practice. Therapists must meticulously document non-verbal responses, behavioral shifts, and physiological changes, continually adapting the musical stimuli to ensure the patient avoids sensory overload.[3] A fundamental best practice is the strict avoidance of any music that may be historically associ-

ated with traumatic events in the patient's life, as the emotional recall triggered by music is potent enough to induce severe psychological distress.[3]

The Clinical Practice Model for Persons with Dementia

To standardize and optimize interventions across the profession, advanced theoretical frameworks have been established. Dr. Alaine E. Reschke-Hernández developed the *Clinical Practice Model for Persons with Dementia*, a paradigm organized around six core thematic areas that prompt the purposeful application of targeted therapeutic techniques.[27] This model specifically addresses the progressive decline in executive functioning, communication, and autonomy characteristic of Alzheimer's disease and related dementias.

Clinical Theme	Specific Therapeutic Technique	Clinical Object
Cognition	Musical Executive Functioning Training (MEFT)®	Support memory communication, and complex problem-so ing.
Attention	Musical Attention Control Training (MACT)®	Enhance focus ar manage environmen distractions.

Familiarity	Therapeutic Singing (TS)®	Provide psychol comfort, reduce con sion, and maintain i tity.
Audibility	Auditory Perception Training (APT)®	Mitigate social w drawal caused by du sensory and cognitiv cline.
Structure	Musical Sensory Orientation Training (MSOT)®	Reduce clinical a ety via highly predic routines.
Autonomy	Therapeutic Instrumental Music Performance (TIMP)®	Exercise functio movement and mai physical independen

These meticulously defined techniques demonstrate that clinical music therapy extends far beyond entertainment, acting as a rigorous neuro-rehabilitative tool designed to preserve human dignity and functional capacity.

Finding Certified Therapists: The Certification Board for Music Therapists (CBMT)

To ensure the delivery of safe, competent, and evidence-based clinical care, it is imperative that healthcare institutions and families utilize credentialed professionals. The Certification Board for Music Therapists (CBMT), established in 1983 and based in Downingtown, Pennsylvania, is the singular national regulatory body overseeing the Music Therapist-Board Certified (MT-BC) credential.[26] Finding a certified therapist and verifying their credentials relies entirely on navigating the resources provided by the CBMT.

Locating a Practitioner

Institutions and individuals seeking a certified music therapist can utilize the CBMT's national directory. While their online certificant search tool is currently undergoing development, verification of certification status and therapist locating services are fully accessible by contacting the CBMT office directly.[29] Inquiries can be made via their toll-free number (1-800-765-CBMT), local phone (1-610-269-8900), direct email, or through their official website's contact forms.[29] The CBMT ensures that all practicing therapists listed in their directory have met the rigorous national standards for education, clinical training, and ethical practice.

The MT-BC Examination and Credentialing Process

Earning the MT-BC credential requires passing a highly rigorous examination process. Candidates must first complete academic and clinical training requirements established by the AMTA. Once eligibility is verified, candidates must pay an

examination fee of $325 and schedule their test through PSI testing centers, which operate over 200 locations internationally.[29] The computer-based examination consists of 150 multiple-choice questions, of which 130 are scored and 20 are pre-test questions used to collect reliability data.[29] The current passing point is 97 correct answers out of the 130 scored questions.[29] The exam content is derived directly from the CBMT Board Certification Domains, which are updated every five years via extensive Practice Analysis Studies to ensure the examination reflects the most current evolution of neurological and clinical science.[29]

The profession is experiencing steady, regulated growth. Historical certificant data highlights this expansion: the total number of MT-BCs grew from 5,120 in 2010 to 6,756 in 2015, reaching 9,074 in 2020, and standing at 10,699 total certified therapists as of early 2026.[29] The current first-time candidate pass rate is 69%, reflecting the demanding nature of the examination.[29]

Recertification and Continuing Competence

The MT-BC certification is not a permanent, lifetime credential; to ensure ongoing clinical competence and public protection, therapists are mandated to recertify every five years.[29] This recertification process requires the accumulation of 100 Continuing Music Therapy Education (CMTE) credits.[29] These credits are earned through approved synchronous or asynchronous opportunities, professional development, and graduate coursework that strictly relate to the CBMT Board Certification Domains.[29] Upon successful recertification, practitioners are issued a verified digital badge via the

Credly platform.[29] Practitioners failing to adhere to the CBMT Code of Professional Practice or failing to complete their CMTEs face severe disciplinary procedures, including the suspension or complete revocation of their credential, forcing them to retake the initial examination.[29]

State Licensure and Title Protection Advocacy

The regulatory landscape for music therapy in the United States is highly localized. The CBMT and AMTA actively collaborate through a State Recognition Operational Plan to secure formal state-level recognition for the profession.[29] This legislative advocacy is crucial; it aims to protect the public from unqualified practitioners and facilitates the inclusion of music therapy in state funding streams, such as Medicaid waivers and private insurance reimbursements.[29]

Currently, state requirements vary drastically, ranging from strict licensure to voluntary registries. The table below outlines the diverse regulatory mechanisms established across various jurisdictions to protect the MT-BC title and scope of practice:

State	Regulatory Mechanism	ti
California	Title Protection (2019)	re C
Connecticut	Licensure (2023)	of

Georgia	Licensure (2012)	St ce
Illinois	Licensure (2022)	of ul
Iowa	Title Protection (2021)	sic sic
Maryland	Licensure (2021)	in gu TI
Mississippi	Licensure (2025)	by C
New Jersey	Licensure (2020)	re tic
New York	LCAT Credential	Li no
Nevada	Licensure (2011)	H ar

North Dakota	Licensure (2011)	St C
Ohio	Licensure (2023)	W Th
Oklahoma	Licensure (2016)	su
Oregon	Licensure (2015)	Li
Rhode Island	Registry (2014)	of
Tennessee	State Certification (2024)	Th an
Utah	State Certification (2014)	Pr
Virginia	Licensure (2020)	pr sic
Washington	Licensure (2023)	M m

Wisconsin	Voluntary Registration	R m in

This complex regulatory environment underscores the necessity of utilizing the CBMT's resources to ensure that any retained music therapist is legally and professionally qualified to practice within their specific jurisdiction.[29]

Implementation Strategies for Caregivers and Long-Term Care

While board-certified therapists are essential for clinical treatment plan development, the daily integration of music by primary caregivers and long-term care staff represents a critical component of continuous dementia care. The implementation of music-based interventions in domestic or residential settings provides vital support for both the patient and the caregiver, offering an accessible, non-pharmacological method to ease the profound physical and psychological stress associated with daily caregiving.[13]

The "Playlist Sandwich" and Daily Routine Management

Caregivers frequently encounter resistance, combativeness, or profound confusion from patients during intimate activities of daily living, such as bathing, dressing, or incontinence care.[32] To mitigate this distress, clinical experts advo-

cate for structured environmental modifications, notably the "Playlist Sandwich" technique. This method utilizes music to bracket high-stress caregiving tasks, intentionally shifting the emotional tone of the interaction.[32]

The technique operates in three distinct phases:

1. **Phase 1 (Preparation):** The caregiver plays one minute of an upbeat, highly familiar song to capture the patient's attention, establish a sense of comfort, and draw the individual into the present moment.[32]
2. **Phase 2 (The Care Task):** The necessary care routine (e.g., dressing or bathing) is executed while the positive emotional state persists. Operating within this window of cognitive arousal significantly reduces behavioral resistance and confusion.[32]
3. **Phase 3 (Resolution):** The caregiver transitions to one minute of a calming, soothing song to signal the completion of the stressful task. This facilitates physiological relaxation and prevents lingering agitation or combativeness from bleeding into the rest of the day.[32]

Beyond specific tasks, caregivers are encouraged to curate dual playlists—one energizing and one relaxing—to structure the day effectively.[22] Energizing music facilitates morning transitions, getting out of bed, and preparing for social activities.[22] Conversely, calming music is deployed to ease the sensory overload of mealtimes, which often overwhelm dementia patients and disrupt nutrition, or to manage the behavioral escalation of sundowning.[22] Caregivers are strongly advised to utilize music sources entirely devoid of commercial interrup-

tions, as sudden, jarring changes in volume or tone caused by advertisements can induce profound confusion and anxiety in an already vulnerable brain.[33]

Overcoming Implementation Barriers in Facilities

Despite its documented efficacy, integrating music therapy into daily care routines within long-term care facilities is fraught with practical challenges. Systematic reviews highlight significant barriers, primarily stemming from a lack of staff knowledge regarding proper implementation, insufficient time allocations for nursing staff, and a dearth of standardized protocols.[1] Care home managers and nursing staff often perceive music implementation as an supplementary burden rather than an integrated, time-saving care tool.[4] Overcoming these barriers requires dedicated education, demonstrating to staff that investing time in music integration ultimately reduces the time spent managing acute behavioral crises later in the shift.

The Loudspeaker vs. Headphone Ethical Dilemma

A specific ethical and environmental consideration involves the modality of audio delivery: headphones versus ambient loudspeakers. Headphones offer a highly private, immersive listening experience, often equipped with noise-cancellation technology that blocks out the distressing, cacophonous environment of a busy nursing facility.[35] However, individuals with severe dementia or sensory processing deficits may lack the cognitive capacity to remove headphones if the stimuli become painful, excessively loud, or psychologically distressing.[37] Furthermore, chronic pain pa-

tients may exhibit sudden hypersensitivity to auditory stimuli.[37]

Therefore, strict clinical guidance dictates that if headphones are utilized, the patient must be closely monitored for non-verbal signs of distress, such as grimacing or physical withdrawal. If headphones are intolerable, loudspeakers may be used. However, it is recommended that the listener be placed in a secluded environment, safeguarding the patient from sensory overload while protecting other residents in the facility who may find the specific music selection disruptive or agitating.[37]

Future advancements in this specific area look toward biopersonalized music recommendation systems. By utilizing electroencephalography (EEG) biomarkers and heart rate variability monitored via wearable technology, machine learning algorithms could dynamically adjust musical elements—such as tempo, pitch, and timbre—in real-time to align precisely with the physiological and emotional state of the dementia patient, effectively eliminating the risk of overstimulation.[38]

National Initiatives, Non-Profits, and Virtual Therapeutic Services

The democratization of music therapy has been significantly accelerated by dedicated non-profit organizations and the rapid advent of virtual health platforms. These programs scale the profound benefits of personalized music, reaching thousands of patients who may lack geographic or financial access to a local MT-BC.

The Music & Memory Program

Founded in 2010, the MUSIC & MEMORY® program is a paradigm-shifting, non-profit initiative that trains care organizations to create deeply personalized playlists for individuals with cognitive challenges.[39] The program's core philosophy rests on the premise that music is intrinsically tied to identity, memory, and emotion.[41] By equipping care teams with the tools to curate music specific to a patient's formative years, the program has demonstrated remarkable, systemic impacts across more than 5,800 certified healthcare sites globally.[39]

A landmark demonstration of the program's efficacy occurred across long-term care facilities in collaboration with the Wisconsin Department of Health Services. The state initiated a program that successfully funded over 300 nursing homes to become certified, providing equipment for over 3,500 nursing home residents.[23] Over the course of the initiative, the state witnessed a dramatic reduction in the reliance on anti-psychotic and anti-anxiety medications.[23] Wisconsin's state ranking for reducing antipsychotic use in nursing homes improved from 10th to 4th nationally, with prescription rates dropping significantly from 17.4% to 14.6%.[42] Similarly, an evaluation known as the Roth Project surveyed 79 caregivers utilizing the program; 99% of caregivers reported satisfaction, noting that personalized music improved the patient's mood in 78% of cases, leading to increased overall happiness, decreased anxiety, and enhanced positive emotional expression.[43]

Music Mends Minds and Community Choirs

Community-based integration is another vital frontier. Music Mends Minds (MMM) is a non-profit organization that creates musical support groups and bands for patients with Alzheimer's, Parkinson's, traumatic brain injury, and stroke.[44] Operating both in-person and virtually, MMM provides free, thrice-weekly Zoom sing-along sessions led by a board-certified music therapist from Harmonic Changes.[44] The organization provides comprehensive, step-by-step curriculums teaching community members how to pioneer local music groups, covering everything from organizing drum circles and finding free sheet music to securing venues and hosting virtual concerts.[46]

Equally impactful are grassroots initiatives like the Precious Memories Choir in Madison, Wisconsin. Founded by Edith Lawrence-Hilliard, Keretha Cash, and Dr. Fabu Carter from the Wisconsin University-Madison Alzheimer's Disease Research Center, this choir caters specifically to individuals with dementia and their caregivers.[48] Focusing on gospel and spiritual music, the choir integrates singing into a social support structure, demonstrating that active musical engagement can transcend cognitive decline, allowing members to perform publicly at nursing homes and community centers while maintaining their social identity.[48]

Virtual Interventions and Caregiver Support

The necessity for remote care has yielded a robust ecosystem of virtual music therapy services and educational hubs. The Alzheimer's Foundation of America (AFA) hosts the Teal Room, a free virtual space providing daily therapeutic pro-

gramming, including music, art, and movement therapy tailored for dementia patients.[49] Organizations such as Bridgetown Music Therapy offer 24/7 on-demand therapeutic video libraries designed specifically for memory care, enabling engagement regardless of time or location.[51] Furthermore, programs like *Stories Love Music* provide free creative engagement workshops specifically designed to treat caregiver burnout, blending music and storytelling to provide respite and new coping tools for those managing the daily realities of dementia care.[44] The Institute for Music and Neurologic Function (IMNF), led by experts like Dr. Concetta Tomaino, continues to pioneer research and training in this domain, marrying decades of clinical impact with accessible community training.[10]

Limitations, Ethical Considerations, and Future Research Directions

While the literature overwhelmingly supports the integration of music therapy in dementia care, a critical evaluation of the existing research reveals methodological limitations and ethical considerations that necessitate further scientific inquiry. The World Health Organization (WHO) has explicitly called for research to extend beyond current boundaries, emphasizing the need for rigorous, standardized evaluations of arts-based interventions.[25]

Methodological Heterogeneity

Current systematic reviews consistently highlight high heterogeneity in study designs, rendering broad clinical gen-

eralizations challenging.[1] Many clinical trials suffer from low patient numbers, short intervention durations, and a fundamental lack of standardized music therapy protocols.[1] The sheer diversity in intervention modalities—ranging from passive listening via pre-recorded headphones to highly interactive, therapist-led improvisational sessions—makes it difficult to isolate the precise variables responsible for clinical improvements.[14] Consequently, while short-term reductions in depression, verbal fluency, and agitation are well-documented, the long-term sustainability of these benefits, as well as robust data regarding cost-effectiveness, remains uncertain.[21]

Ethical Considerations and Potential Harms

A significant paradox exists in the current research paradigm: music therapy is nearly universally perceived as a benign, side-effect-free intervention, leading to a sparse and inconsistent reporting of adverse events.[53] However, ethical considerations dictate that music is not universally harmless. Music inherently possesses the power to evoke deep-seated emotional trauma or grief, depending on the individual's autobiographical associations.[3] Furthermore, inappropriate auditory stimulation—such as excessive volume, complex polyrhythms, or the use of restrictive headphones in patients who cannot communicate physical or psychological discomfort—can result in severe sensory overstimulation, exacerbating agitation and combativeness rather than soothing it.[33] Future research must rigorously document potential adverse events, delineating clear contraindications for specific musical modalities in advanced dementia populations.[53]

The Horizon of Neuro-Music Research

The future of music therapy in neurogerontology relies on the execution of large-scale, multi-center, randomized controlled trials that clearly define the intervention and strictly separate it from "treatment-as-usual".[1] Furthermore, advancements in neuroimaging and biomarker tracking are poised to elucidate the precise mechanisms by which musical stimuli alter the neurochemical environment of the brain.[13] As the integration of AI-driven, bio-responsive music curation matures, the precision and safety of individualized interventions will dramatically increase, cementing music therapy as a sophisticated cornerstone of modern dementia care.[38]

Conclusion

The integration of music therapy into the continuum of dementia care represents a profound convergence of neurobiology, clinical psychology, and holistic health. By bypassing the cortical damage wrought by neurodegenerative diseases and directly accessing preserved subcortical and limbic networks, music therapy provides a critical, functional bridge to the inner life of the patient. The empirical evidence is robust: structured music interventions, particularly when guided by Board-Certified Music Therapists utilizing advanced frameworks like the Clinical Practice Model for Persons with Dementia, significantly enhance cognitive reserve, mitigate behavioral and psychological symptoms, and dramatically reduce the systemic reliance on pharmacological restraints.

Simultaneously, the democratization of these clinical principles through non-profit programs like MUSIC & MEM-

ORY® and the rapid proliferation of virtual telehealth services have empowered primary caregivers with non-invasive, highly effective tools to navigate the daily, often grueling challenges of dementia care. While the scientific community must continue to address methodological heterogeneities and rigorously study the ethical parameters of auditory overstimulation, the existing data unequivocally positions music therapy as an indispensable, evidence-based pillar of neurogerontological rehabilitation. As the global population ages, prioritizing the funding, legislative recognition of certified therapists, and clinical implementation of music therapy will be essential to preserving the dignity, cognitive function, and emotional vitality of the millions living with dementia.

Works cited

1. Effects of Music Therapy on Patients with Dementia—A Systematic ..., accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC7709645/
2. Music-based therapeutic interventions for people with dementia - PMC - NIH, accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC6481517/
3. Music Therapy and Dementia Care: Older Adults Living with Memory Disorders, accessed April 30, 2026, https://www.musictherapy.org/assets/1/7/Fact-Sheet_Music_Therapy_and_Dementia_Care_2021.pdf
4. Barriers to Music Therapy in the Care of Those With Alzheimer's/Dementia - Georgia Southern Commons, accessed April 30, 2026, https://digitalcom-

mons.georgiasouthern.edu/cgi/viewcontent.cgi?article=1114&context=honors-theses
5. The Sound of Memory: Investigating Music Therapy's Cognitive ..., accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC11122286/
6. Music Therapy in the Treatment of Dementia: A Review Article - PMC, accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC10151115/
7. Music Therapy in the Treatment of Dementia: A Systematic Review and Meta-Analysis - PMC, accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC7248378/
8. MUSIC THERAPY TECHNIQUES FOR MEMORY STABILIZATION 1 - Liberty University, accessed April 30, 2026, https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=1850&context=honors
9. Music as Therapy in Aging Populations: Ethical Issues - Indian Journal of Mental Health, accessed April 30, 2026, https://indianmentalhealth.com/pdf/gbe/2022/vol9-issue3/11-Ethical-Viewpoint-Paper_Music-as-Therapy.pdf
10. Music Therapy - Lewy Body Dementia Resource Center, accessed April 30, 2026, https://lewybodyresourcecenter.org/activities-therapeutics/activities-therapeutics-florida/therapeutics/music-therapy/
11. Music as Medicine for Alzheimer's Disease and Dementia, accessed April 30, 2026, https://www.nm.org/

healthbeat/healthy-tips/emotional-health/music-as-medicine-alzheimers-dementia
12. Setting a Spark with Music | Alzheimer's Foundation of America, accessed April 30, 2026, https://alzfdn.org/setting-a-spark-with-music/
13. How Music Therapy Supports Behavioral Health Goals for Dementia Patients, accessed April 30, 2026, https://www.thesupportivecare.com/blog/how-music-therapy-supports-behavioral-health-goals-for-dementia-patients
14. The Effect of Music Therapy on Psychological Outcomes for Neurological Conditions: A Systematic Review - PMC, accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC12471332/
15. The Benefits of Music Therapy for Dementia Patients - The Connecticut Hospice, accessed April 30, 2026, https://www.hospice.com/the-benefits-of-music-therapy-for-dementia-patients/
16. The effect of music therapy on cognitive functions in patients with ..., accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC10041788/
17. Music Therapy in the Treatment of Dementia: A Systematic Review and Meta-Analysis, accessed April 30, 2026, https://www.frontiersin.org/journals/medicine/articles/10.3389/fmed.2020.00160/full
18. Cognitive enhancement through music therapy: meta-analytic evidence across clinical population - Frontiers, accessed April 30, 2026, https://www.fron-

tiersin.org/journals/public-health/articles/10.3389/fpubh.2025.1735470/full

19. Effectiveness of the Music Therapy in Dementia: A Systematic Review and Meta-Analysis of Randomized Controlled Trials - Karger Publishers, accessed April 30, 2026, https://karger.com/dem/article/54/3/167/915984/Effectiveness-of-the-Music-Therapy-in-Dementia-A
20. The Therapeutic Effects of Music Therapy on Memory Care - Heisinger Bluffs, accessed April 30, 2026, https://www.hbrhc.com/blog/music-therapy-for-memory-care
21. Full article: The effects of music interventions on behavioural and psychological symptoms in older adults with dementia: systematic review - Taylor & Francis, accessed April 30, 2026, https://www.tandfonline.com/doi/full/10.1080/18387357.2025.2605992
22. 12 music activities & tips for someone with dementia - HopeHealth, accessed April 30, 2026, https://www.hopehealthco.org/blog/12-music-activities-tips-for-someone-with-dementia/
23. Music & Memory Program | Wisconsin Department of Health Services, accessed April 30, 2026, https://www.dhs.wisconsin.gov/music-memory/index.htm
24. Comparative Efficacy of Active Group Music Intervention versus Group Music Listening in Alzheimer's Disease - PMC, accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC8345612/

25. Music therapy in health care practice: promise, pitfalls, and policy implications - PMC, accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC12968174/
26. WHAT is Music Therapy - Alzheimer's Association, accessed April 30, 2026, https://www.alz.org/getmedia/c8e893af-97c5-4409-a84a-8cdbe198e380/401-Music-Therapy-Accessible-Adaptable-to-All-pptx.pdf
27. Enhancing Dementia Care Through Music Therapy: Insights from a ..., accessed April 30, 2026, https://perfectharmonyhealth.com/blog/dementia
28. Clinical Practice Model for Persons with Dementia: Application to Music Therapy - Oxford Academic, accessed April 30, 2026, https://academic.oup.com/mtp/article-abstract/39/2/133/6289898
29. Find A Therapist - CBMT, accessed April 30, 2026, https://www.cbmt.org/find-a-therapist/
30. Music and Caregiving: Hitting the Right Notes - AARP, accessed April 30, 2026, https://www.aarp.org/caregiving/medical/music-therapy-caregiving/
31. Home-based music therapy for persons with dementia and their spouses as primary caregivers - PMC, accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC10579886/
32. Music-Based Dementia Care Techniques for Daily Routines, accessed April 30, 2026, https://superiorseniorhomecare.com/music-based-dementia-care-techniques/

33. Music / Art Therapy, Alzheimer's & Dementia, accessed April 30, 2026, https://www.alz.org/help-support/caregiving/daily-care/art-music
34. Barriers and Facilitators for Implementing Music Interventions in Care Homes for People with Dementia and Depression: Process Evaluation Results of the Multinational Cluster-Randomized MIDDEL Trial - MDPI, accessed April 30, 2026, https://www.mdpi.com/2076-328X/15/8/1004
35. Use of headphones for the delivery of music programs for people with dementia in long-term care homes: a scoping review - PMC, accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC12857178/
36. Use of headphones for the delivery of music programs for people with dementia in long-term care homes: a scoping review protocol - PMC, accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC11086536/
37. Guidance for Music Listening Programs | American Music Therapy Association (AMTA), accessed April 30, 2026, https://www.musictherapy.org/research/guidance_for_music_listening_programs/
38. Use of headphones for the delivery of music programs for people with dementia in long-term care homes: a scoping review - Frontiers, accessed April 30, 2026, https://www.frontiersin.org/journals/dementia/articles/10.3389/frdem.2025.1707201/full
39. Music & Memory, accessed April 30, 2026, https://musicandmemory.org/

40. IMPACT - Music & Memory, accessed April 30, 2026, https://musicandmemory.org/wp-content/uploads/2021/12/MM_ImpactReport_Final_2020.pdf
41. MUSIC & MEMORY® - Institute for Music and Neurologic Function - Mount Vernon, NY, accessed April 30, 2026, https://imnf.org/training-certification/team-training/music-memory/
42. The Growing Case for Music in Dementia Care - Music & Memory, accessed April 30, 2026, https://musicandmemory.org/2025/07/08/the-case-for-music-in-dementia-care-keeps-growing/
43. The Roth Project - Music and Memory: A Community Agency Initiated Individualized Music Intervention for People with Dementia - PMC, accessed April 30, 2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC6884019/
44. Music - Virtual Programs | Dementia Action Alliance, accessed April 30, 2026, https://daanow.org/discovery-center/music/virtual-programs/
45. Musical Support Groups | Music Mends Minds, Inc. | United States, accessed April 30, 2026, https://www.musicmendsminds.org/
46. Education Platform | musicmendsminds, accessed April 30, 2026, https://www.musicmendsminds.org/courses
47. Virtual Sessions Structure | musicmendsminds, accessed April 30, 2026, https://www.musicmendsminds.org/courses/virtual-sessions-structure

48. Power of Song: Memories Choirs | Alzheimer's Foundation of America, accessed April 30, 2026, https://alzfdn.org/the-power-of-song/
49. Resources for Caregivers | Alzheimer's Foundation of America, accessed April 30, 2026, https://alzfdn.org/caregiving-resources/
50. THE GROWING CASE FOR MUSIC IN DEMENTIA CARE | Alzheimer's Foundation of America, accessed April 30, 2026, https://alzfdn.org/webinar_archive/the-growing-case-for-music-in-dementia-care/
51. Dementia-Friendly Music Engagement Programs - Virtual Brain Health Center Directory, accessed April 30, 2026, https://virtualbrainhealthcenter.com/directory/listing/dementia-friendly-music-engagement-programs/
52. Bridgetown Music Therapy, Singing at Home, Music with Alexis, accessed April 30, 2026, https://www.bridgetownmt.com/
53. Music therapy in health care practice: promise, pitfalls, and policy implications - Frontiers, accessed April 30, 2026, https://www.frontiersin.org/journals/human-neuroscience/articles/10.3389/fnhum.2026.1768102/full